

**EPA / DEC SCOPING QUESTIONS FOR GEOTECHNICAL SURVEYING ACTIVITIES ON THE
OUTER CONTINENTAL SHELF AND STATE WATERS IN THE CHUKCHI SEA AND
BEAUFORT SEA**

- 1) Describe the projected annual geotech program goals in the context of infrastructure.
 - a. Platform location assessment
 - b. Shallow pipeline corridor
 - c. Deep pipeline corridor
 - d. Other (artificial islands)

- 2) When are geotechnical operations anticipated to occur (per program goal per Sea and per year)?
 - a. Seasonally? If seasonal, identify months of planned operations.

- 3) What types of borehole drilling technologies will be used?
 - a. Conventional rotary drill
 - b. Piston corer
 - c. Other (Seabed Technology)

- 4) Will drilling fluids be used? Is there a mechanism to collect drilling fluids and cuttings? For anticipated drilling methods, describe handling procedures for fluids & cuttings.
 - a. Stored and disposed of at a permitted land-based location
 - b. Surface discharge (mixing zone)
 - c. Seafloor (zone of deposit and/or mixing zone)

- 5) If drilling fluids are used what would be the anticipated chemical makeup?
 - a. Viscosifying agent (e.g. a thickener such as clay)?
 - b. Densifying agent (e.g. barite)?
 - c. Will polymer gels be used to increase lubricating nature of the muds?

- 6) What is the expected number of boreholes per program goal per Sea per year?
 - a. Describe the types of borehole(s) intended to be drilled (e.g. diameter, depth, etc.)?

PROGRAM GOAL	TECHNOLOGY	DEPTH OF BOREHOLE	WATER DEPTH BELOW MLLW	BOREHOLE DIAMETER	NUMBER OF BOREHOLES
		< 50 feet deep			
		> 50 feet and < 499 feet deep			
		> 499 feet deep			

- b.** Breakdown of Annual Boreholes per Water Depth below MLLW
 - i. < 5 m
 - i. $10 \text{ m} > X > 5 \text{ m}$
 - ii. $20 \text{ m} > X > 10 \text{ m}$
 - iii. $> 20 \text{ m}$
 - c.** What is the projected volume of drilling fluids and drill cuttings generated per method and what are the diameter/depth relationships?
 - d.** What is the anticipated areal extent of sediment deposition and thickness relative to depths of the holes?
 - e.** What is the expected spacing, or range of spacing, between each borehole sample location?
- 7)** What would be the maximum discharge of drilling fluids and drill cuttings (*max rate of discharge per hour and max discharge per day*)?
- 8)** What type of vessel will be used to conduct borehole drilling activities?
 - a.** Floating vessel
 - b.** Moored vessel
 - c.** Ice
- 9)** How long (i.e. days) is a vessel/rig expected to operate at a specific borehole drill site?
- 10)** What are the anticipated discharges and volumes from the vessel?
 - a.** Deck drainage
 - b.** Domestic wastewater (black water and graywater)
 - c.** Desalination wastewater
 - d.** Boiler blowdown
 - e.** Fire control test water
 - f.** Non-contact cooling water
 - g.** Uncontaminated ballast water
 - h.** Bilge water
- 11)** Will chemicals/additives be added to any other vessel/rig discharges (i.e. discharges other than drilling fluids and drill cuttings)?
 - a.** Noncontact cooling water?
 - b.** Disinfection of sanitary/domestic wastes, etc...
- 12)** What is the maximum discharge of noncontact cooling water (*max rate of discharge per hour and max discharge per day*)?
- 13)** What is a “mud pit” and what is “mud pit clean up”? (*Source: Shell NPDES Permit Application Form 2C*)

- 14) Will any of the boreholes be “plugged?” If so, what materials will be used?
 - a. Excess cement slurry?
 - b. Other?
- 15) Will trenching technologies be evaluated or trenching activities conducted within the next 5 years? If so, EPA/DEC would like more information on this activity in order to include it in this permit development process.
- 16) Can we expect that future development and production operators to share the same infrastructure, such as a joint pipeline system? What other potential pipeline routes should we consider in our analysis?
- 17) We would like more information regarding potential geotechnical activities occurring within the 25 mile deferral area in the Chukchi Sea. What are the anticipated activities and how would industry ensure minimal impacts on biological communities within this area?
- 18) Please describe the community outreach activities conducted thus far by industry regarding planned geotechnical work.